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10/612,334

07/02/2003

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PYLE & PIONTEK

ATTN: THOMAS R. VIGIL

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CHICAGO, IL 60601

EXAMINER

PICO, ERIC E

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/612,334	<b>Applicant(s)</b> WITTUR ET AL.	
	<b>Examiner</b> ERIC PICO	<b>Art Unit</b> 3654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,6-10 and 12-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,6-10 and 12-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. **Claims 2 and 6** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. The term "essentially" in claims 2 and 6 is a relative term which renders the claim indefinite. The term "essentially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.
4. The term "about" in claim 6 is a relative term which renders the claim indefinite. The term "about" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.
5. Regarding claim 6, it is unclear and indefinite what the term "useful cage loads" encompasses.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claim(s) 1, 2, 6-10, and 15-17** is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Berkovitz U.S. Patent No. 4030569 in view of Aulanko et al. U.S. Patent No. 5429211, Scholder U.S. Patent No. 5975826, and Wilcox U.S. Patent No. 4624097.

8. **Regarding claim 1**, Berkovitz discloses a gearless cable-operated elevator comprising a drive sheave drive including a drive sheave 26 several parallel carrier cables 24, 25, 42, and a spaced counter sheave 28, the cables being guided from the drive sheave 26 to the counter sheave 28, back to the drive sheave 26, and wrapped around the drive sheave 26 and arranged above or below a cage 20 and a counterweight 22 being attached to the carrier cables, for a machine-room-free installation, characterized in that said carrier cables are steel cables having a nominal diameter of about 12.7 mm and run in semicircular grooves in the sheaves having undercut portions each with a width of about 12.7 mm.

9. Berkovitz is silent concerning guide rails being provided for said cage and said carrier cables having a nominal diameter between 5 to 7 mm and undercut portions each with a width between 1 and 3 mm and that the ratio of the drive sheave diameter to the nominal diameter of said carrier cables is less than 40

10. Aulanko et al. teaches a gearless cable-operated elevator comprising a drive sheave drive 6 including a drive sheave 7 several parallel carrier cables 3, and a spaced counter sheave 4, 5, 9, the cables 3 being guided from the drive sheave 7 to the

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counter sheave 4, 5, 9, and arranged above or below a cage 1 with guide rails 10 being provided for said cage 1 and a counterweight 2 being attached to the carrier cables 3, for a machine-room-free installation, characterized in that said carrier cables 3 run in semicircular grooves 102 in the sheaves having undercut portions each with a width.

11. Scholder teaches a carrier cable 75 being steel cables having a nominal diameter between 5 to 7 mm, Column 5, Lines 56 and 57.

12. Wilcox teaches the ratio of the drive sheave diameter to the nominal diameter of said carrier cables is less than 40, Column 3, Lines 24-28; stating “normal sheave/rope ratios (i.e. about 24) and a safety factor of 6, which is commonly used”.

13. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the cage disclosed by Berkovitz with guide rails as taught by Aulanko et al. to guide the cage.

14. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the steel cables having a nominal diameter of about 12.7 mm and running in semicircular grooves in the sheaves having undercut portions each with a width of about 12.7 mm disclosed by Berkovitz a nominal diameter between 5 to 7 mm as taught by Scholder running in semicircular grooves in the sheaves having undercut portions each with a width to between 1 and 3 mm to decrease the ratio of diameter of the drive sheave to nominal diameter of the carrier cables. Furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

15. It would have been obvious to one of ordinary skill in the art at the time of the invention to characterize the ratio of the drive sheave diameter to the nominal diameter of the carrier cables disclosed by Berkovitz less than 40 as taught by Wilcox to decrease the diameter of the drive sheave and reduce the torque required to drive the elevator. Furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

16. **Regarding claim 2**, Berkovitz is silent concerning the ratio of the drive sheave diameter to the nominal diameter of the carrier cables being essentially 30.

17. Wilcox teaches the ratio of the drive sheave diameter to the nominal diameter of the carrier cables being essentially 30.

18. It would have been obvious to one of ordinary skill in the art at the time of the invention to characterize the ratio of the drive sheave diameter to the nominal diameter of the carrier cables disclosed by Berkovitz being essentially 30 as taught by Wilcox to decrease the diameter of the drive sheave and reduce the torque required to drive the elevator. Furthermore, it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ (CCPA 1980).

19. **Regarding claim 6**, Berkovitz is silent concerning the elevator is configured for useful cage loads of up to 2000kg and the carrier cables have a nominal diameter of essentially 7 mm, and the ratio of the drive sheave diameter to the nominal diameter of the carrier cables preferably being about 34.

20. Aulanko et al. teaches a passenger elevator system with a load capacity of 800 kg.

21. Scholder teaches a carrier cable 75 being steel cables having a nominal diameter of essentially 7 mm, Column 5, Lines 56 and 57.

22. Wilcox teaches the ratio of the drive sheave diameter to the nominal diameter of the carrier cables preferably being about 34, Column 3, Lines 24-28; stating "normal sheave/rope ratios (i.e. about 24) and a safety factor of 6, which is commonly used".

23. It would have been obvious to one of the ordinary skill in the art at the time of the invention to configure the passenger elevator system of Berkovitz for useful cage loads of up to 2000 kg as taught by Aulanko et al. to decrease the ratio of diameter of the drive sheave to nominal diameter of the carrier cables. Further, it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ (CCPA 1980).

24. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the steel cables having a nominal diameter of about 12.7 mm disclosed by Berkovitz a nominal diameter of essentially 7 mm as taught by Scholder to decrease the ratio of diameter of the drive sheave to nominal diameter of the carrier cables. Furthermore, it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ (CCPA 1980).

25. It would have been obvious to one of ordinary skill in the art at the time of the invention to characterize the ratio of the drive sheave diameter to the nominal diameter

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of the carrier cables disclosed by Berkovitz being about 34 as taught by Wilcox to decrease the diameter of the drive sheave and reduce the torque required to drive the elevator. Furthermore, it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ (CCPA 1980).

26. **Regarding claim 7**, Berkovitz is silent concerning the elevator being configured for useful cage loads between 300 kg and 1000 kg in particular.

27. Aulanko et al. teaches a passenger elevator system with a load capacity of 800 kg, Column 6, Lines 41-45.

28. It would have been obvious to one of the ordinary skill in the art at the time of the invention to configure the passenger elevator system of Berkovitz for useful cage loads between 300 kg and 1000 kg as taught by Aulanko et al. Further, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

29. **Regarding claim 8**, Berkovitz discloses said counter sheave 28 serves simultaneously as a distancing deflection sheave 28.

30. **Regarding claim 9**, Berkovitz is silent concerning for adaption to the occurring cable forces alone, the number of applied carrier cables is variable in the drive sheave drive.



31. Aulanko et al. teaches the drive sheave having a plurality of cable grooves 119 on its drive sheave 7 by which the number of applied carrier cables can be varied due to occurring cable forces alone

32. It would have been obvious to one of ordinary skill in the art at the time of the invention to vary the number of applied cables as taught by Aulanko et al. in the drive sheave disclosed by Berkovitz to adapt to the occurring cable forces.

33. **Regarding claim 10**, Berkovitz discloses said drive sheave 26 and said counter sheave 28 of said drive sheave drive are vertically arranged with respect to one another and in the area of a shaft head in the area of a shaft pit.

34. **Regarding claim 15**, Berkovitz discloses a cage suspension for the elevator is provided with a ratio of 1 to 1.

35. **Regarding claim 16**, Berkovitz is silent concerning a loose pulley cage suspension for the elevator is provided with a ratio of between 2 to 1 and 4 to 1.

36. Aulanko et al. teaches a loose pulley cage suspension for the elevator is provided with a ratio of between 2 to 1 and 4 to 1.

37. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the cage disclosed by Berkovitz with a loose pulley cage suspension a ratio of between 2 to 1 and 4 to 1 to facilitate the lifting of the cage.

38. **Regarding claim 17**, Berkovitz discloses said carrier cables are single-layer round core cables.

39. **Claim(s) 12-14** is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Berkovitz U.S. Patent No. 4030569 in view of Aulanko et al. U.S. Patent No.

5429211, Scholder U.S. Patent No. 5975826, and Wilcox U.S. Patent No. 4624097 as applied to claim 1 above, and further in view of Hollowell International Publication No. 99/43595.

40. **Regarding claim 12**, Berkovitz is silent concerning the drive sheave and the counter sheave of the drive sheave drive are arranged on the bottom or on the roof of the cage.

41. Hollowell et al. teaches an elevator system, characterized in that a drive sheave 30 and a counter sheave 34 of the drive sheave drive are arranged on the bottom of a cage 16.

42. It would have been obvious to one of ordinary skill in the art at the time of the invention to arrange the drive sheave and the counter sheave of the drive sheave drive disclosed by Berkovitz on the boom of the cage as taught by Hollowell et al. to accommodate the elevator components within the environmental restraints of the shaft.

43. **Regarding claim 13**, Berkovitz is silent concerning the drive sheave drive is fixed to an elevator frame for the elevator.

44. Hollowell et al. discloses an elevator system, characterized in that drive sheave 30 is fixed to an elevator frame 16 for the elevator.

45. It would have been obvious to one of ordinary skill in the art at the time of the invention to fix the drive sheave drive disclosed by Berkovitz to an elevator frame for the elevator as taught by Hollowell et al. to reduce space within the hoistway and facilitate easy access to the elevator drive sheave.

46. **Regarding claim 14**, Berkovitz is silent concerning holding elements for the drive sheave drive are integrated in a cage frame or in a cage main support.

47. Hollowell et al. teaches an elevator system, characterized in that holding elements for the drive sheave 30 are integrated in the cage frame 16.

48. It would have been obvious to one of ordinary skill in the art at the time of the invention to integrate holding elements to the drive sheave drive disclosed by Berkovitz a cage frame as taught by Hollowell et al. to reduce space within the hoistway and facilitate easy access to the elevator drive sheave.

49. **Claim(s) 18 and 19** is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Berkovitz U.S. Patent No. 4030569 in view of Aulanko et al. U.S. Patent No. 5429211, Scholder U.S. Patent No. 5975826, and Wilcox U.S. Patent No. 4624097 as applied to claim 1 above, and further in view of Aulanko et al. U.S. Patent No. 5665944.

50. **Regarding claim 18**, Berkovitz is silent concerning a motor of the drive sheave drive is a three-phase asynchronous motor or a three-phase synchronous motor.

51. Aulanko et al. U.S. Patent No. 5665944 teaches a three-phase asynchronous and three-phase synchronous drive sheave motor for use in a gearless elevator system. The use of the motor taught by Aulanko et al. U.S. Patent No. 5665944 minimizes the drive sheave as well as adds additional space within the hoistway due to its small size.

52. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the motor disclosed by Berkovitz a three-phase asynchronous or three-phase synchronous drive sheave motor as taught by Aulanko et al. U.S. Patent

No. 5665944 to minimize space within the elevator hoistway as well as drive the elevator system

53. **Regarding claim 19**, Berkovitz is silent concerning a motor of the drive sheave drive embodied without mechanical emergency braking device.

54. Aulanko et al. teaches a drive sheave embodied without a mechanical emergency stop braking device to minimize the size of the drive sheave as well as prolong the life span of the drive sheave

55. It would have been obvious to one of the ordinary skill in the art at the time of the invention to make the drive sheave disclosed by Berkovitz a drive sheave embodied without a mechanical emergency stop braking device as taught by Aulanko et al. to increase the life span of the drive sheave.

### ***Response to Arguments***

56. In response to applicant's argument filed 4/22/2008 "the terms "essentially" and "about" are terms like the term "substantially"" the terms "essentially" and "about" may be like to the term "substantially" but is not the same. The office recommends claims 2 and 6 to use the term "substantially".

57. Applicant's arguments with respect to claims 1, 2, 6-10, and 12-19 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIC PICO whose telephone number is (571)272-5589. The examiner can normally be reached on 6:30AM - 3:00PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Cuomo can be reached on 571-272-6856. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EEP  
/Peter M. Cuomo/  
Supervisory Patent Examiner, Art Unit 3654